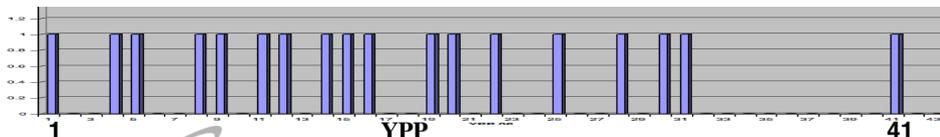


# I-BNL/PHENIX Group Members

- FWP-2.2 PHENIX Scientific Personnel (%research budget support): **S. Belikov (25%); H.Buesching, Post-doc (50%); G. David (75%); A. Franz (25%); J. Haggerty (25%); B.Johnson (25%); E. Kistenev (50%); A. Milov, Post-doc [Goldhaber Fellow] (50%); J.Mitchell (75%); D.Morrison (50%); E. O'Brien (25%); C. Pinkenburg (25%); M. Purschke (25%); A. Sickles, Postdoc (50%); T. Sakaguchi (0%); M. Tannenbaum (75%); S. White (25+25%); C. Woody (50%).** PHENIX operations very successful in 2006: 335TB--230B pp events sampled!!!
- Our group members are very heavily recruited by University Faculties: Buesching --> Frankfurt (2006); Mioduszewski --> TAMU (2005), Velkovska --> Vanderbilt (2003).
- Replacement is difficult due to funding constraints--but search now in progress for Saskia's replacement.

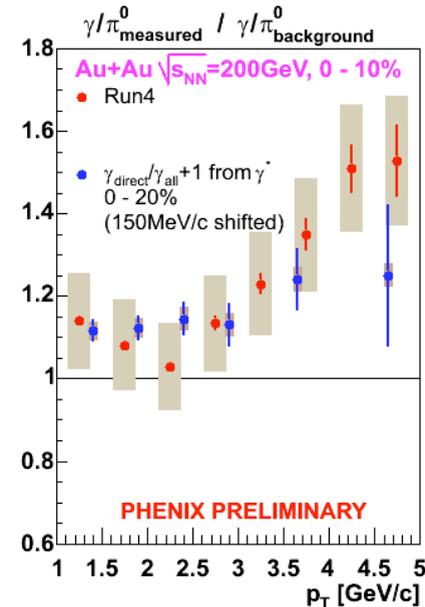
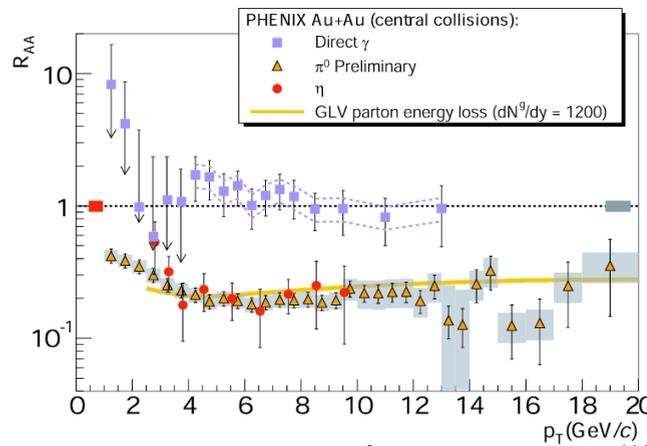
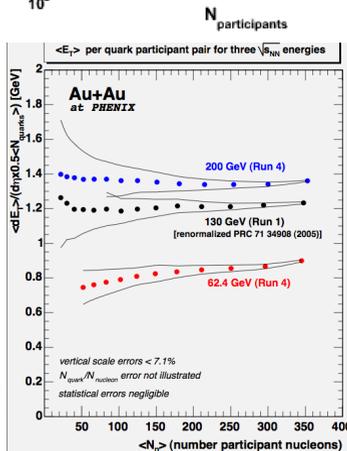
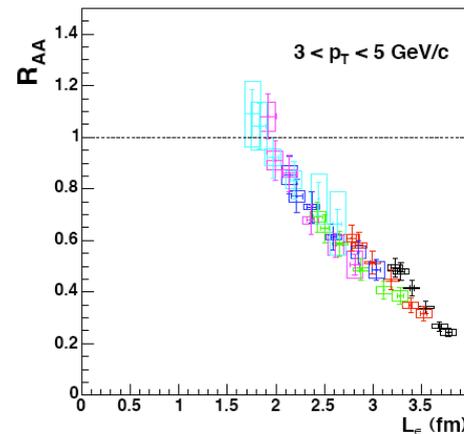
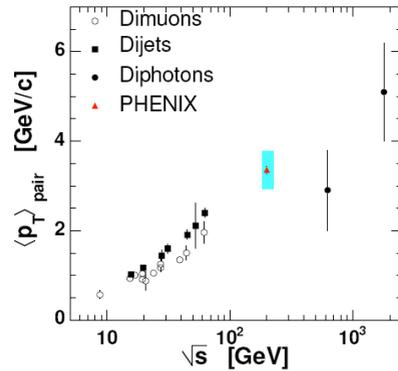
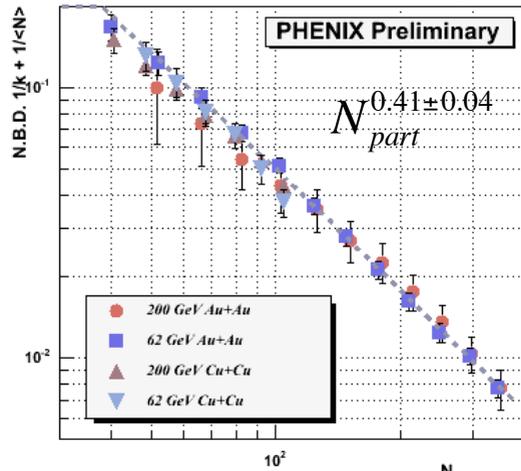
FTE Res 8.8      Res 8.4      Res 8.25      Res 7.25      Res 7.0  
 Ops 9.1      Ops 9.3      Ops 9.10      Ops 9.75      Ops 10.0

Year	FY2002	FY2003	FY2004	FY2005	FY2006
Labor	1750	1701	1845	1730	1788
MST	374	361	320	420	410
Total K\$	2124	2062	2165	2150	2198



# II-BNL/PHENIX Group--Current Research

- BNL/PHENIX group played a leading role in designing PHENIX to detect the QGP
  - thermal photons and leptons, J/Psi at mid-rapidity (rare events), high rate capability
- Impact of BNL/PHENIX group on PHENIX experiment (this yr 6 of 15 subm or published).
  - High  $p_T \geq 25 \text{ GeV}/c$   $\pi^0$   $\gamma \rightarrow$ EMCal $\rightarrow$ Segmentation $\rightarrow$ JetQuenching
  - low  $p_T$  J/Psi,  $e^\pm$  pairs  $\rightarrow$  B=0 on axis, extremely low  $X_0$  in aperture, EMCal-RICH electron trigger  $\rightarrow$  HBD
  - Charm via single  $e^\pm$ , converter method to **measure** photonic and non-photonic  $e^\pm$



# III-BNL/PHENIX Group--Future

- Jet Quenching---Not Understood for light or heavy quarks-->more precise data with identified particles  $\pi^0$ ,  $\gamma$ ,  $e^\pm$ ,  $p$ ,  $K^\pm$ ,  $K_s^0$ ,  $\eta$ ,  $\omega$ ... . Vary parameters especially centrality, angle with respect to reaction plane, species,  $\sqrt{s_{NN}}$ .
- Where does the energy go? Mach cone? Other?--> Identified Associated particles with identified high  $p_T$  trigger  $\pi^0$ ,  $\gamma$ ,  $e^\pm$ ,  $p$ ,  $K$ ... same and away side systematics. In its infancy--learning curve just beginning.
- Fluctuations-exciting new results to understand --> critical point scan.
- Upgrades
  - ✓ VTX--added 2-3 Si experts from Phobos group-Pak, Sukhanov, Nouicer--identified b c quarks
  - ✓ HBD--low mass  $e+e^-$ : Woody, Milov, Sickles, Sakaguchi,...
  - ✓ NCC--SiW Calorimeter--forward  $\gamma$ ,  $\pi^0$ , jet. Gluon shadowing (EMC) or CGC in d+Au +....: Kistenev, Kistenev, Pak, Sukhanov, + world's Si experts.
- A 10% staff increase (as recommended many times in the past but never actually given) would greatly help productivity as a large fraction of the group is tied up in the challenging (>9 subsystem) operations.